

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated April 18, 2006 has been received and its contents carefully reviewed.

By this Response, claims 34 and 53 have been amended. No new matter has been added. Claims 34-59 are pending in the application. Reconsideration and withdrawal of the rejections in view of the above amendments and the following remarks are respectfully requested.

In the Office Action, claims 34-44 and 46-59 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,456,350, issued to Ashizawa et al. (hereafter "Ashizawa") in view of U.S. Patent No. 5,745,207, issued to Asada et al. (hereafter "Asada") and U.S. Patent No. 5,905,556, issued to Suzuki et al. (hereafter "Suzuki"). Applicant respectfully traverses the rejection because neither Ashizawa, Asada nor Suzuki, analyzed alone or in any combination, teaches or suggests the combined features recited in the claims of the present application. In particular, Ashizawa, Asada and Suzuki fail to teach a liquid crystal display device that includes, among other features, "data lines having a substantially zigzag shape;...common electrodes having a substantially zigzag shape... pixel electrodes having a substantially zigzag shape;... wherein liquid crystal molecules in a portion of a domain near the sawtooth-shaped region of the common line between corresponding common electrodes and pixel electrodes have substantially a same rotational direction as liquid crystal molecules in a remaining portion of the domain", as recited in independent claim 34 of the present application.

Ashizawa, Asada and Suzuki further fail to teach a method for fabricating a liquid crystal display device that includes, forming "data lines having a substantially zigzag shape; common electrodes having a substantially zigzag shape" and forming "pixel electrodes having a substantially zigzag shape" and "providing liquid crystal molecules in a domain between the

common and pixel electrodes, wherein the liquid crystal molecules in a portion of the domain near the sawtooth-shaped base region and the common line have substantially a same rotational direction as liquid crystal molecules in a remaining portion of the domain”, as recited in independent claim 53 of the present application.

The Office Action concedes that Ashizawa and Asada fail to teach the combined features recited in the claims of the present application. To remedy the deficient teachings, the Office Action relies upon the teachings of Ashizawa and Asada and further upon the teachings of Suzuki. Based upon the teachings of Suzuki, the Office Action states that it would be obvious to modify the device of Ashizawa by the teachings of Asada and Suzuki to provide a device having the combined features recited in the claims of the present application. Applicant respectfully disagrees.

First, Ashizawa, Asada and Suzuki fail to teach data lines, common electrodes and pixel electrodes having a substantially zigzag shape. Second, Ashizawa, Asada and Suzuki fail to teach “liquid crystal molecules in a portion of a domain near the sawtooth-based region and the common line between corresponding common electrodes and pixel electrodes have substantially a same rotational direction as liquid crystal molecules in a remaining portion of the domain”, as recited in independent claim 34 of the present application. Applicant notes Suzuki discloses, with respect to figures 20 and 21, “the electric field E1 in the top and bottom portions of each sub pixel area can be smaller than that of the first embodiment as illustrated in FIG. 9” (see, col. 8, lines 46-49). However, Applicant submits Suzuki does not teach “liquid crystal molecules in a portion of a domain near the sawtooth-shaped base region and the common line between corresponding common electrodes and pixel electrodes have substantially a same rotational direction as liquid crystal molecules in a remaining portion of the domain”. Because Suzuki fails to teach at least this feature of claim 34, Suzuki does not remedy the deficient teachings of

Ashizawa and Asada. Accordingly, no combination of Ashizawa, Asada and Suzuki would provide a liquid crystal display device having all of the combined features recited in the claims of the present application. As such, independent claim 34 and its dependent claims 35-44 and 46-52 are allowable over Ashizawa, Asada and Suzuki.

Based upon the above discussion, Ashizawa, Asada and Suzuki would further fail to teach a method for fabricating a liquid crystal display device that includes, among other features, forming data lines, common electrodes and pixel electrodes that having a substantially zigzag shape and “providing liquid crystal molecules in a domain between the common and pixel electrodes, wherein the liquid crystal molecules in a portion of the domain near the sawtooth-shaped based region and the common line have substantially a same rotational direction as liquid crystal molecules in a remaining portion of the domain”, as recited in independent claim 53. As such, independent claim 53 and its dependent claims 54-59 are allowable over any combination of Ashizawa, Asada and Suzuki.

Reconsideration and withdrawal of the rejection are respectfully requested.

In the Office Action, claim 45 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ashizawa, Asada and Suzuki and further in view of U.S. Patent No. 6,243,146, issued to Rho, et al. (hereafter “Rho”). Applicant respectfully traverses the rejection because Rho fails to teach a liquid crystal display device that includes, among other features, a plurality of data lines, common electrodes and pixel electrodes, each having a substantially zigzag shape, and “liquid crystal molecules in a portion of a domain near the sawtooth-shaped base region and the common line between corresponding common electrodes and pixel electrodes have substantially a same rotational direction as liquid crystal molecules in a remaining portion of the domain”, as recited in independent claim 34 of the present application.

Rho discloses a “pixel electrode is connected to the drain electrode 90 through the contact hole 130” (col. 5, lines 12-14). However, Applicant respectfully submit Rho fails to remedy the deficient teachings of Ashizawa, Asada and Suzuki. Specifically, Rho fails to teach the above-identified features recited in independent claim 34. Thus, even if the teaching of the pixel electrode being connected to the drain electrode through the contact hole is used to modify the device of Ashizawa, the resulting device would fail to provide a plurality of data lines, common electrodes and pixel electrodes each having a substantially zigzag shape, and “liquid crystal molecules in a portion of a domain near the sawtooth-shaped base region and the common line between corresponding common electrodes and pixel electrodes having substantially a same rotational direction as liquid crystal molecules in a remaining portion of the domain”, as recited in independent claim 34, from which claim 45 depends.

Accordingly, claim 34 and its dependent claim 45 are allowable over any combination of Ashizawa, Asada, Suzuki and Rho. Reconsideration and withdrawal of the rejection are respectfully requested.

Applicant believes the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

Application No.: 10/695,908
Response dated July 13, 2006
Reply to Office Action dated April 18, 2006

Docket No.: 8733.494.20-US

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

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Respectfully submitted,

By Valerie P. Hayes
Valerie P. Hayes
Registration No.: 53,005
MCKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
(202) 496-7500
Attorneys for Applicant